UNDERSTANDING RENEWABLE ENERGY
ENERGY AND YOU

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Video Transcript

[TEXT: Young African Leaders Initiative Online Training Series]

[TEXT: Dr. Peter Mukoma, Demand Response and Energy Efficiency Manager, Council for Scientific and Industrial Research, South Africa]

[TEXT: Understanding Renewable Energy: Energy and You]

I'm Peter Mukoma and this is "Energy and You."

In this lesson, we will offer ways that individuals can help their communities and countries move to renewable energy sources, and also look at specific measures that individuals can take to reduce their energy demand and be more efficient consumers.

In our previous lessons, we looked at what utility companies are doing to develop a 21st century energy system. The question is, can individuals play a role as well? The answer is yes, both in energy production and consumption.

In many parts of the world, homeowners and businesses are installing rooftop solar panels to generate electricity for their own use. This practice of generating electricity at the same location where it is used is called "distributed generation." Many find that they are able to cover a large portion of their own electricity needs this way. And in areas with net metering, they can sell any excess electricity they generate back to the grid. Net metering simply means you are charged for the amount of electricity you get from the grid minus the excess electricity you send back to the grid.

Distributed generation can benefit a utility in several ways. First, it reduces the demand for power from the utility. That means the utility doesn't have to build as many power plants or use as much fuel. Furthermore, it broadens the geographical area over which renewable energy is produced. As we saw in the last lesson, that helps even out local fluctuations in power generation resulting from changes in weather patterns.

Of course, not everyone can afford to install rooftop solar panels to generate their own electricity. In some places, local governments have helped to bring electricity to neighborhoods and remote communities that never had it previously by providing rooftop panels to low-income households for free or at a reduced price. In other places, utilities and private companies have helped by leasing access to people's rooftops to generate electricity for a community and the larger power grid. But even if you can't install solar panels on your home, there are many measures that everyone can take to reduce their energy demand and use energy more efficiently.

Do you know what uses the largest amount of electricity in your house? There is a good chance it's your hot water geyser. Installing a solar water geyser or a high-efficiency heat pump can reduce your energy usage dramatically. But if you can't afford a new geyser, just turning the thermostat down to 60 degrees will make a significant reduction in your energy demand and still leave you with plenty of water for a shower. You should also ensure your geyser and pipes are well insulated, and turn the geyser off when you are away from home for an extended period. And speaking of showers, shorter showers and low-flow shower heads will save both water and electricity.

Another major drain on your electricity is heating and cooling systems. You can reduce the strain on your central heat and air by ensuring that your house is properly insulated and that you apply sealant and weather stripping around windows and doors. Good ceiling and roof insulation can make your house 10 degrees cooler in hotter months and 5 degrees warmer during cooler weather, without any help from the heating and cooling unit. Heat-reflective paint on the roof can also help cool the house when the temperature outside is very hot. Sunny windows can let in warmth from the sun during colder temperatures and insulated curtains can block out heat in warm weather. Consider using fans and small space heaters to control the temperature in the rooms you occupy instead of depending on a central system to control the temperature throughout the house. Be sure to use them only when you're in the room and turn them off when you leave.

Technological advances in lighting have produced lights that are dramatically more efficient than old incandescent bulbs. Replacing old bulbs with new compact fluorescent lights — CFLs — or light-emitting diode bulbs — LEDs — can reduce your energy demand for lighting by 80 to 90 percent. You should also be sure to turn off any lights if you are not using them.

When you buy appliances, you should pay attention to their energy-efficiency ratings. Disconnect appliances from the wall socket when they are not in use. Leaving televisions, sound systems and computers plugged in produces a constant drain of electricity. Wash clothes in cold water and hang them out to dry instead of using a dryer. To the extent it's possible, use energy-consuming appliances like washers and dryers outside peak load hours to reduce the strain on the energy system. When cooking, use the stove instead of the oven and use an insulated cooker to continue cooking with the electricity turned off.

These are just a few of the ways you can modify your energy demands at little to no cost. I encourage you to look at MyGreenHome.org.za for additional ideas about how you can reduce your energy consumption. Every bit of energy you save is less energy the utility has to produce. That means a lower electric bill for you, a lower fuel requirement for the utility company, resulting in reduced greenhouse gas emissions.

Each of us has a role to play in ensuring that we have enough energy to grow our economies. Together we can build the energy system of the 21st century.

Now that you have reviewed all of the lessons in this course, go to YALI.state.gov to test your knowledge and earn a YALI Network certificate.

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